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NOTICE
OF THE
ACADEMY OF NATURAL SCIENCES
OF
PHILADELPHIA.
WITH
AN APPENDIX.

“Chaque grain de sable est une immensité; chaque feuille un monde;
chaque insecte un assemblage d'effets incompréhensibles où la ré-
flexion se perd.”

LAVATER.

THIRD EDITION.

PUBLISHED BY DIRECTION OF THE ACADEMY.



PHILADELPHIA:

W. P. GIBBONS, PRINTER, GEORGE, ABOVE SIXTH.

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1836.

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TO

WILLIAM MACLURE, Esquire,

THE

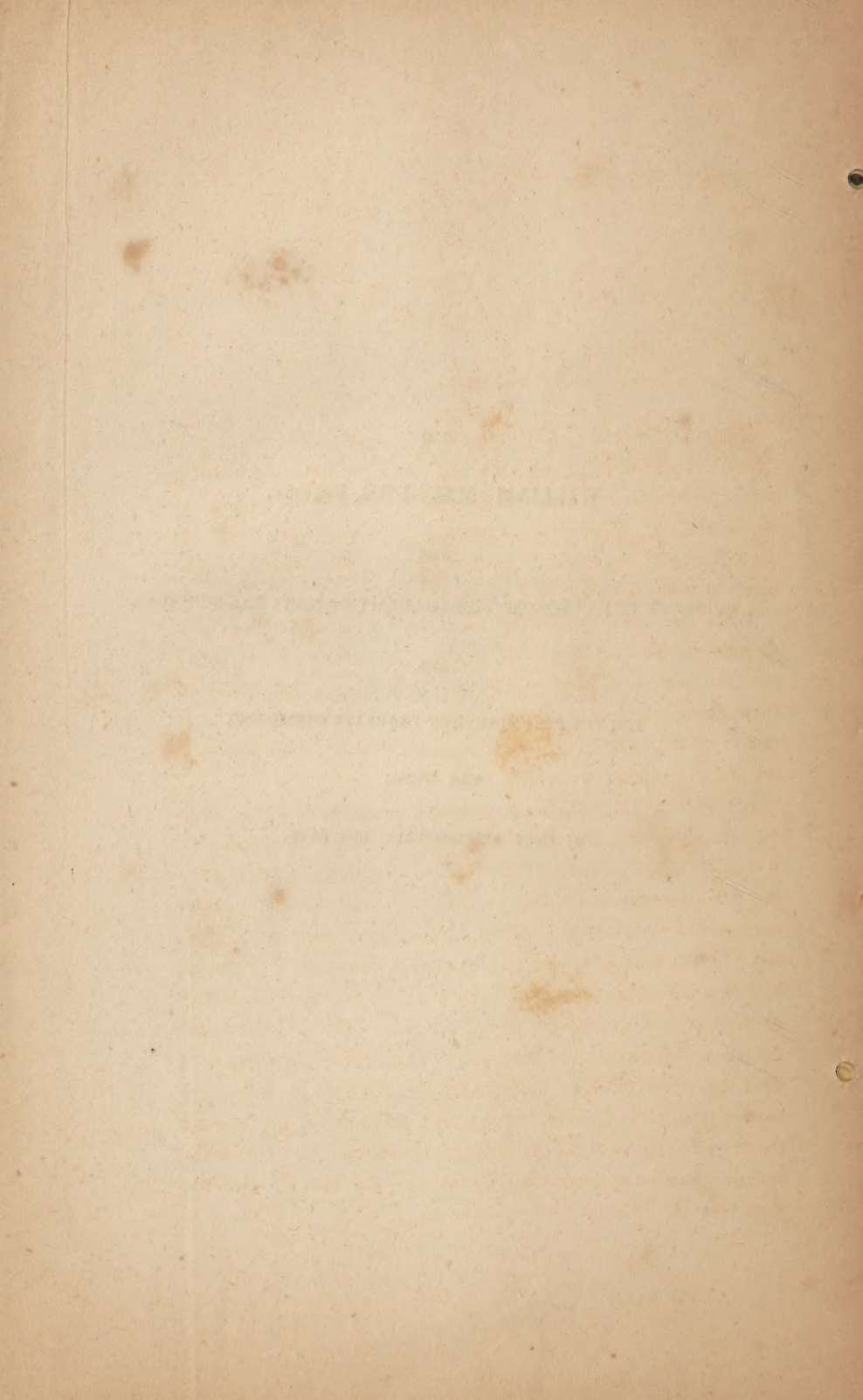
MUNIFICENT PATRON OF THE ACADEMY OF NATURAL SCIENCES,

AND

FOR THE PAST EIGHTEEN YEARS ITS PRESIDENT,

THIS NOTICE

IS MOST RESPECTFULLY INSCRIBED.



NOTICE.

NATURAL HISTORY, in its present state, may be compared to a Temple, beautiful in its materials, and just in its proportions, yet in many parts unfinished, while innumerable architects are engaged in its completion. The foundation was laid in antiquity, but the superstructure is the work of modern times; and civilized nations now vie with each other in this fascinating toil.

What has been the result? To say that confusion has been turned to order would be doing injustice to nature: let us rather say that man has at length discovered the harmony, connexion, and dependence which characterize the works of Providence; he sees that every object in nature is a link in creation, and that nothing is wholly insignificant or useless.

But Natural History, however ennobling to the mind, has been hitherto retarded in this country by various adverse circumstances. It was discarded in the exclusive utilitarian system, which teaches that those pursuits which lead to wealth are alone worthy of ambition: while on the other hand, its admirers were constantly discouraged by the want of books, and illustrative collections. A change however, has taken place, and natural history is rapidly assuming its proper place among the useful sciences. The physician and the chemist, the miner and the manufacturer, find it interwoven with their respective pursuits: the traveller by its aid gleans instruction and amusement in the most inhospitable solitudes: it has become the fire-side recreation of both sexes; and every one may reap abundant gratification to requite him for the time and labor he may bestow upon it.

We propose, on the present occasion, to introduce the reader to some acquaintance with the ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA; for we are aware that this Institution has many members both in Europe and America, whose remote situation will give an interest to the following details, while they will be more or less gratifying to every friend of science.

The Academy originated on the 25th of January, 1812, at which time a few gentlemen resolved to meet once in every week, for the purpose of receiving and imparting information. The persons whose names appear to the minutes of this primary meeting, are Dr. Gerard Troost, John Shinn, Jacob Gilliams, Nicholas Parmentier, John Speakman, and Dr. Camillus M. Mann, who state that they "have conjointly proceeded to initiatory business, as well for themselves as for Mr. Thomas Say, absent."* The second meeting was held on the 17th of March following; the minutes being signed by the above named gentlemen, including Mr. Say. The following declaration was at this time unanimously adopted:

"We will contribute to the formation of a Museum of Natural History, a Library of works of science, a chemical experimental Laboratory, an experimental philosophical apparatus, and every other desirable appendage or convenience for the illustration and advancement of natural knowledge, and for the common benefit of all the individuals who may be admitted members of our Institution."

Such was the commencement of the Academy of Natural Sciences. But even at that late period the study of natural history was confined, in this country, to a very few zealous individuals; and although several societies had been organized for concentrating the scientific talent and enterprize of Philadelphia, their duration was for the most part ephemeral. About this period however, natural history received a permanent impulse from the appearance of Wilson's *American Ornithology*, and from the personal exertions and published tracts of Dr. Benjamin Smith Barton. Botany, so ably illus-

* Vide original minutes in the records of the Academy.

trated by the ardour of Dr. Muhlenburg, had several votaries at the time we allude to: among the most zealous of these were Mr. Nuttall, Mr. Z. Collins, Dr. Waterhouse, and a few others. Mr. Say was indefatigable in various branches; Mr. Ord was devoted to Zoology; Mr. Godon, Mr. Conrad, and Dr. Troost were active in exploring the mineral resources of our country; Mr. Maclure was assiduously engaged in Geology; whilst many others who have since become distinguished for their scientific acquirements, were then just entering on the threshold of inquiry.

Most flourishing Institutions have had their probationary difficulties and discouragements. The Academy was for many years located in an inconvenient situation, and may even be said to have struggled for an existence.* Books and collections of natural objects, those indispensable pre-requisites for such an establishment, accumulated but slowly; and money, that *primum mobile* of human achievements, was sparingly at the disposal of an infant Institution. At this juncture the Academy found a truly munificent friend in William Maclure, Esq. This gentleman had amassed a handsome fortune in mercantile pursuits; and being possessed of an acute mind and extensive scientific acquirements, he attached himself to the Academy with a zeal and liberality which have few examples on record. During a protracted visit to Europe, he collected a great number of books which he presented to his adopted Institution. He traversed the continent of Europe from Italy to Sweden, and in every situation found something to feed the ardour of his mind, and aid the cause of science. In these fruits of unwearied personal industry, the Academy shared largely; and its present valuable collections may be said to have mainly originated in the contributions of Mr. Maclure. Among the coadjutors of Mr. Maclure at that

* The first meetings of the founders of the Academy were held at each other's houses; a few months afterwards a room was rented in North Second Street; and at a still later period, Mr. Gilliams erected a building in Arch Street which was occupied as the Hall of the Academy until the present property was purchased in 1826.

period of the Academy's history, which most of all required the fostering care of its members, we have a melancholy pleasure in recording the names of Mr. Z. Collins, the abbe Correa de Serra,* Mr. Thomas Say, Dr. Edward Barton, Dr. Waterhouse, and Mr. R. Haines, all of whom are since deceased. To them, and to many of their associates who are yet living, we may apply the eloquent language of one of our fellow members: "It is not less a dictate of the head than an impulse of the heart, to honor those who have stood forth as the leaders of new, useful, and difficult enterprises. Even persons who themselves never enter the same career, may still participate largely in the sentiment of gratitude for those efforts which have had in view the improvement of society, by additions to its treasures of knowledge."†

As early as the year 1813 a subscription amounting to nearly \$800 was entered into by a number of the members for the purchase of Dr. Seybert's collection of minerals, at that time one of the best in Philadelphia. This acquisition led in 1814 to the delivery of a course of lectures on mineralogy and crystallography by Dr. Troost which was repeated in the subsequent year.

In the spring of 1814, Doctors Barnes and Waterhouse delivered a popular course of lectures on Botany, which were so well received that they were repeated in 1815. These were the first lectures of the kind ever given in Philadelphia.

In the winter of 1815-16 Mr. John Shinn delivered a popular course of lectures on chemistry. The heavy expenses of these lectures, which had no other aim than the promotion of science, were wholly defrayed by the Institution.

* M. Correa de Serra was an eminent Portuguese botanist, who resided for several years in the United States, which he finally left for South America in 1820, where he soon after died. The most complimentary resolutions were passed by the Academy on the occasion of his departure.

† Memoir of the late L. D. Von Schweinitz. By Walter R. Johnson, 1835.

The Academy was incorporated in 1817, from which period its permanence and prosperity may be dated. Its location at that time though not the most desirable, was respectable, and in some respects convenient; and its library and museum augmented rapidly. It was in a few years found necessary to provide more extensive accommodations, and on the 3d of January 1826, the society purchased the building and premises they now occupy. This great object was attained in the first place by a subscription of more than two thousand dollars on the part of the members; the remainder of the purchase money being loaned by a few members and others.*

This edifice, which was originally designed for a place of religious worship, is situated at the corner of Twelfth and George Streets; it is a quadrangular, stuccoed brick edifice, about forty-four feet by fifty, and surmounted by a dome. It presents a single saloon, with a gallery eight feet broad projecting from the wall on all sides, midway between the floor and ceiling. The light is admitted from the dome, and from six side windows above the gallery.

The lower part of the building is occupied chiefly as a library and meeting room. The gallery is devoted to the collections. The latter are displayed in upright cases against the walls, and in horizontal cases† against the railing of the gallery. The objects are arranged in accordance with the most approved systems; and their generic and specific names, (whenever these can be ascertained,) together with their localities, and the names of the donors, are attached to each article. The attention which is paid to these particulars renders the cabinet not only pleasing to the eye, but satisfactory for reference: for it is obvious, that without such care, the

* The sum paid for the building and lot was \$4,300, (being the then value of the ground,) and about \$1,700 were expended in alterations, making about \$6,000. The value of the property has more than doubled in the nine years since the purchase. The first meeting in the new hall was held on the 9th of May 1826. See APPENDIX, No. 3.

† These cases were put up by a separate donation of money, (upwards of \$300,) subscribed by a number of members. See APPENDIX, No. 4.

most splendid collections are productive of more disappointment than gratification to the observer.

Notwithstanding the efforts thus made to provide for the Academy's collections, the latter have augmented so rapidly as to render the present building altogether inadequate to that purpose. The premises,* however, are ample; and it is confidently hoped that the time is not distant when the valuable property of the Institution will be protected by a fire-proof edifice.

To make their collections extensively useful, and to diffuse the love of science in every class of the community, the Academy passed a law in 1830, rendering its museum gratuitously accessible to the public; and it is accordingly open to the admission of citizens and strangers on the afternoons of Tuesday and Saturday throughout the year. The State Legislature, duly appreciating the liberality and usefulness of the Academy, passed an act in 1831, exempting the Institution from taxes for twenty years.

The meetings of the Academy are held every Tuesday evening: they are open to visitors excepting the last meeting in each month, which is reserved for the private business of the institution. The other, or ordinary meetings, are devoted to the reading of scientific papers, verbal communications, the receiving of donations, &c. &c.

The present number of RESIDENT MEMBERS is upwards of one hundred.† The list of CORRESPONDENTS is much more numerous, and embraces a large proportion of the distinguished scientific men of all countries.

* About 100 feet by 45.

† See Appendix, No. I.

JOURNAL OF THE ACADEMY.

THE "JOURNAL OF THE ACADEMY" was commenced in 1817. This work is chiefly confined to brief and technical statements of discoveries in Natural History ; in other words, that which is not new, (or believed to be so,) is not admitted in to its pages. A periodical journal restricted within such bounds, must necessarily be almost exclusively interesting to scientific persons, among whom it is widely circulated in America and Europe. It is replete with important details in every branch of Science, and probably contains a greater body of facts in reference to the technical natural history of this country, than any other work. Six octavo volumes have already been published, and the seventh is in progress of completion. An outline of the plan and purpose of this work, cannot be better conveyed than by quoting a part of the preface to the first volume :

"In further pursuance of the objects of their institution, the Society have now determined to communicate to the public, such facts and observations as, having appeared interesting to them, are likely to prove interesting to other friends of natural science. They do not profess to make any periodical communication ; but well knowing how desirable it is that persons engaged in similar pursuits should be made acquainted, as early as possible, with what has been done by their fellow-labourers in the field of Science elsewhere, they mean to publish a few pages whenever it appears to them that materials worthy of publication have been put in their possession. In so doing they propose to exclude entirely all papers of mere theory,—to confine their communications as much as possible to facts,—and, by abridging papers too long for insertion in their original state, to present the facts thus published, clothed in as few words as are consistent with perspicuous description."

The views expressed in the preceding paragraph have been

strictly conformed to; in consequence of which the Journal continues to be issued when original papers are offered, without reference to any precise interval.

Among the contributors to the *Zoological* department, we may mention the names of Mr. Say, Prince Charles Lucian Bonaparte, Mr. Lessueur, Mr. Ord, Dr. Harlan, Mr. Wood, Dr. Green, Dr. R. Coates, Dr. S. Mitchell, Mr. Hentz, Dr. Godman and Mr. T. A. Conrad.

The *Botanical* communications are chiefly from Mr. Nuttall, Mr. De Schweinitz, Mr. Stephen Elliott and Mr. S. W. Conrad.

In *Geology* and *Minerology*, many papers will be found from the pens of Mr. Maclure, Mr. Nuttall, Mr. Vanuxem, Mr. Keating, Dr. Troost, Mr. J. P. Wetherill, Mr. T. Brown, Mr. T. A. Conrad, Dr. Edwin James, Mr. Dietz and others.

In *Chemistry* and *Anatomy* are some valuable essays from Professors Hare, Horner, A. D. Bache and Johnson, and Mr. Henry Seybert.

LIBRARY.

THIS Library, which, in Natural History at least, is by far the richest in the United States, is indebted to Mr. Maclure for seven-tenths of all the books contained in it. In the five years from 1816 to 1820 inclusive, this munificent patron of science presented nearly 1500 volumes, (including 146 folios, and nearly 600 quartos) on Natural History, the Fine Arts, Antiquities, Books of Travels, &c. embracing many of the most costly works on these subjects. Beside these are numerous works on various other subjects, especially a series of politico-historical Journals, embracing the Minutes and Debates of the various legislative bodies of France during the Revolution, upwards of 1000 volumes, together with many portfolios of pamphlets relating to the same epoch.

The value of these acquisitions was greatly enhanced by the fact, that they were possessed by no other institution on this side

of the Atlantic ; the Academy, therefore, derived from this source a prosperity and permanence, which, under other circumstances, must necessarily have been extremely slow and uncertain ; while science, at the same time, received an impulse which has never faltered, and which has been subsequently imparted to every section of our country.

Since the period in question, the increase of the Library, by donations and purchases, has been steadily progressive : independent of a vast number of minor acquisitions, the great work of Mr. Audubon, on the Birds of America, has been presented by a club of members ; and the beautiful volumes on the same subject by Charles Lucian Bonaparte, are a donation from Mr. Cooper of New York. From the late Mr. Collins, Mr. Dunn, Mr. Von Martius, Mr. G. Mantell, the late Baron Cuvier, and many others of our members and correspondents, the Library has received numerous valuable publications.

In 1834, the entire Entomological library of the late Mr. Thomas Say, was presented by verbal bequest, through his widow. The books and tracts in this collection are upwards of one hundred * in number : they had been selected with great care by Mr. Say, and, as respects this country, are unique of their kind.

Pursuing thus, in a somewhat chronological order, the growth of the Library, it is now our grateful task to record another act of splendid munificence on the part of its founder.

It is well known to Mr. Maclure's friends that in 1825 he projected a gigantic scheme of education, which was designed to embrace all that is valuable in literature, science, and art. The centre

* 8 vols. quarto, (7 on Entomology, 1 on Fossils.)

45 " octavo, (42 on do., 3 various.)

3 " duodecimo, all Entomological.

36 pamphlets, same.

7 " on Conchology.

12 " on Geology and other branches of natural history.

of these operations was established at New Harmony,* in Indiana, and thither at a great expense, Mr. Maclure concentrated his library, collections in natural history, and whatever else could best promote his design: but his advanced years, and consequent infirmities, prevented his personal supervision of the plan, which, during his long residence in the city of Mexico,† became in a great measure inoperative, and was finally suspended by the death of Mr. Say. The occurrence of the latter event determined the proprietor of these treasures to make them useful through another channel, by transferring them to the Academy of Natural Sciences; which he accordingly did in the summer of 1835. This rare liberality at once doubled the Library of our institution, and supplied it with a great number of valuable works not only on Natural History, but on all the subjects already enumerated. It would encroach too much on the space allotted to this memoir to present even an analysis of the contents of this Library, which contains about 2300 volumes: among them are, Bonaparte's great work on Egypt, Pirenesi's Italy, and the splendid natural history illustrations of Redouté, Humboldt, Poli, and many others.‡ Referring for particulars to the Library catalogue, we may here merely add that the latter now embraces about 6000 volumes.

* An eloquent writer has justly observed that Mr. Maclure's residence in New Harmony, "as well as that of several other learned men, should not be confounded with the eccentric experiment of which, by the agency of Mr. Robert Owen, the same place was made the theatre." Mr. Maclure had but one motive,—the diffusion of knowledge.

† Mr. Maclure has resided in Mexico for several years past, in order to enjoy the benefit of a climate more genial to his constitution than that of the United States.

‡ As soon as Mr. Maclure's donation was announced to the members of the Academy, they entered into a subscription for the purpose of conveying the books up the Ohio river to Pittsburg, and thence to Philadelphia. Dr. Pickering (for several years Librarian to the Academy,) volunteered his services to superintend the transportation, which was completed in December, 1835, and January, 1836.

While on this subject we cannot omit remarking, that one of the greatest desiderata for our institution is a *Library Fund*, the annual proceeds of which should be expended in the purchase of books. The want of such a provision has been greatly felt for many years past, and its importance must be obvious to every one. No exertions should be spared in establishing the nucleus of this fund, which, once commenced, we have no doubt would in a few years receive such additions as would make it subserve all the reasonable wants of the Society.

MUSEUM.

WE next propose, as a part of the task we have attempted, to offer some brief particulars in reference to the *Collections* of the Academy. These collections, it is obvious, will not bear a comparison with the great European museums, many of which have been established and fostered by the patronage of national governments; but we trust the reader will bear in mind that the Academy is still in its youth, and that its present collections, and other property, have been exclusively derived from the liberality, talent and industry of private individuals.

For the purpose of convenience, the collections may be arranged under three heads:

1. ZOOLOGY. 2. BOTANY. 3. GEOLOGY and MINERALOGY.

ZOOLOGY.

THE constant attention required by the large Zoological preparations, and the space necessary to their proper exhibition, are obstacles against which our institution has been hitherto inadequately provided. Hence the Academy has but recently attempted to make

a systematic collection of Quadrupeds. The commencement, however, is promising; many indigenous, and some foreign species, having already been obtained.

The department of Comparative Anatomy embraces some highly interesting subjects, among which we may particularize the perfect skeleton of the Indian Rhinoceros, (*R. unicornis*,) brought from the Himalaya mountains by Dr. Burrough, and presented to the Academy by a subscription of the members.

This department also embraces a series of the crania of all classes of vertebral animals, amounting to about four hundred specimens. The Human skulls alone, in this collection, are upwards of one hundred in number, embracing numerous varieties of the three great races of Men, which may be arranged as follows:

North American Aborigines,	20
South Americans, of the ancient Peruvian race,	40
South Americans, of the modern Peruvian race,	4
Caucassian race of the different European nations,	4
Caucassian variety of Hindostan, chiefly Bengalees,	19
Caucassian variety of ancient Egypt, (Mummies from the catacombs of Thebes,)	2
Malays,	10
Chinese,	4
Native Africans,	3
Negroes born in the United States,	3
Lunatics of all the races,	12
Series of skulls, showing the modifications caused by age,	6

127

ORNITHOLOGY. Perhaps no one of the Natural Sciences has been more assiduously cultivated by the members of the Academy than *Ornithology*. This observation is established by reference to the splendid works which have successively appeared from Alexander Wilson, George Ord, Charles Lucian Bonaparte and J. J. Audubon. These gentlemen have widely diffused the taste for this

elegant study, and have, in truth, left comparatively little to be accomplished by future inquirers. The collection of birds in the Academy already exceeds 1000 species, of which about 500 are displayed in cases.

This series includes a collection of 250 species of the birds of Surinam, presented by Dr. Hering, late of that province, and now of this city. From our fellow member Dr. Burrough,* the Academy has received upwards of 200 species of the birds of India, many of which are of extreme rarity. Much also is owing to the liberality of Mr. Audubon, Dr. M'Euen, Dr. Mervin, Dr. Hufnagle, and the late Mr. W. S. Warder: but in this department the society is under particular obligations to Dr. M'Euen, by whose personal exertions the collection has mainly attained its present extent, and admirable preservation, in the short period of six years.

ICHTHYOLOGY. The collection of FISHES is as yet comparatively inconsiderable. A series of those inhabiting the waters of Guiana has been presented by Dr. Hering. Dr. Burrough has deposited an interesting collection from some of the remoter provinces of India, and the American species have of late received considerable accessions.

CONCHOLOGY. The cabinet of SHELLS, which is arranged in horizontal cases, presents one of the most ornamental portions of the Academy's museum. The number of species is upwards of 2000, displayed on plaster pedestals, with the names attached; much labor having been bestowed for several years past in ascertaining their generic and specific designations. The Academy is under particular obligations to Dr. Burrough, Dr. Ruschenberger, Captain Land, Mr. Poulson, and Mr. T. Say, for their contributions to the series of marine shells. An interesting part of the col-

*The Academy is deeply indebted to the liberality of this gentleman, who, during his extensive travels in Hindostan, the Indian Archipelago, and South America, has availed himself of every occasion to increase its collections in all the departments of natural history.

lection is formed by the fresh-water and land shells, collected and presented by Col. Long, Dr. Burrough, Mr. Conrad, Mr. Lea, Mr. Hyde, Mr. J. M. Earle, Mr. J. Ronaldson, Dr. Hildreth, and Dr. Pennock.

The arrangement adopted in this department is that of the Baron Cuvier.*

HERPETOLOGY. The **REPTILES** are numerous, and include a large proportion of the known American, and a great number of exotic species. This department is especially indebted to the exertions of Dr. Harlan, Dr. Burrough, Dr. Blanding and Dr. Hering. During the year 1830, the latter gentleman presented upwards of 200 species of the serpents, lacerta, and other reptiles of the north-eastern regions of South America. We have much pleasure in adding, that the liberality of Dr. Hering in this and other departments, was suggested and directed by the late Rev. Lewis de Schweinitz of Bethlehem, Pennsylvania. The collections were submitted to the discretionary distribution of the latter gentleman, who transmitted them entire to the Academy of Natural Sciences.

The **CRUSTACEA** and **ZOOPHYTES** embrace many American, and some foreign species, for which the society is particularly indebted to the late Mr. Say.

ENTOMOLOGY. Of the many thousand species of Insects possessed by the Academy, a very large proportion is formed by the entire collection of the late Mr. Thomas Say, who left it by verbal bequest through his lady, in 1834. It gives us much pleasure to add, that another collection of upwards of 4000 species, (two-thirds of which are American,) chiefly collected by one of our members, will be presented to the society, as soon as more effectual measures can be devised for their preservation. With the collections of Dr. Hering, already mentioned, were 400 species of insects, in fine order, from the province of Surinam. The collection of **Lepidoptera** has been chiefly derived from Mr. T. R. Peale.

* *Regne Animal*, T. III.

BOTANY.

THE *Herbarium* embraces about 30,000 species of Plants, of which no less than 23,000 were bequeathed by our late fellow member, the Rev. Lewis David von Schweinitz. These were the acquisitions of a single individual during a period of forty years devoted to a favourite science. Mr. de Schweinitz's American species were chiefly collected by himself, while his numerous correspondents supplied him with exotics. Thus the European species were supplied by Dr. Schwaegrichen of Leipsic, Dr. Steudel, Dr. Zeyher, and M. Brongniart. The Siberian plants were furnished by M. Ledebour, and those of India by Dr. Wallich. The Chinese collection was made by our fellow member James Read Esq. The plants of the Polar regions were collected by Capt. Parry, and presented by Dr. Hooker of Glasgow; to which may be added an interesting collection from Labrador, presented by Mr. Kohmeister, a Moravian missionary in that country. The South American species were chiefly obtained through M. Von Martius and Dr. Hering. This vast collection also embraces the entire Herbarium of the late Dr. Baldwin, which is particularly rich in plants of North and South America, and was on inspection by Mr. de Schweinitz, found to contain upwards of 3000 species not embraced in his previous collection.

The Academy also possesses the valuable herbarium of Mr. Thomas Nuttall. This gentleman is well known to have been for many years ardently engaged in botanical researches. He has traversed the United States and Territories in almost every direction,—the courses of the Missouri and Arkansa Rivers,—the great Lakes, Carolina, Georgia, Louisiana, &c. He had but one motive, the acquisition of scientific knowledge: and among his other collections are nearly 3000 species of plants, all of which are now in

the Academy. At a later period, Mr. Nuttall presented his whole exotic herbarium, embracing several thousand additional species.*

The Academy is also under great obligations in this department, to the late Mr. Collins, Mr. James Read, Dr. R. E. Griffith, Mr. Maclure, Dr. Pickering, Mr. Jos. P. Smith, the late Mr. S. W. Conrad, Dr. Carson, and Dr. Bridges, and more lately to Don Ramon de la Sagra, for several hundred species of the plants of Cuba.

The whole, observes Mr. Johnson, is now arranged after the neat and judicious manner of Mr. de Schweinitz, into scientific order, on a plan to embrace the collections of the latter naturalist with the previous herbarium of the Academy; "secured as far as possible from the depredation of insects, and easy of access for the purposes of research and comparison."† The merit of this beautiful and elaborate arrangement is almost exclusively due to Dr. Pickering, who, in uniting the several collections, has as far as practicable, brought together such plants as belong to the same natural families of Jussieu, without disturbing the previous plan of Mr. De Schweinitz, who followed the artificial classification of Linnæus.

* With that extraordinary spirit of research which characterizes this gentleman, he has, within the past year, (1834-5,) crossed the Continent of America over the Rocky Mountains, to the mouth of the Columbia river, and at the latest advices had reached the Sandwich Islands. He is accompanied by another zealous member of our Institution, Mr. John K. Townsend. The sole object of these gentlemen in their protracted and hazardous enterprize, is to explore the regions through which they pass.

† Mr. Johnson's memoir of Mr. De Schweinitz, for which the author is chiefly indebted for these facts relative to the herbarium of the Academy.

GEOLOGY AND MINERALOGY.

NEXT to the Botanical, the Geological series is the most complete of the Academy's collections. It comprises about 5000* specimens, of which two-thirds are fossil organic remains of animals and plants. The fossils are arranged according to the formations in which they occur, and afford matter of great interest to the geologist. The different suites may be enumerated as follows:

1. A series of the rocks of Europe, Primitive, Transition, and Basaltic; collected between Naples and the north of Italy, and thence through Germany to the Baltic Sea, by Mr. Maclure, and by him presented to the Academy. Upwards of 1100 specimens.

2. Series of the Lavas of Vesuvius, collected from the various currents ejected by that mountain during several centuries. Presented by R. E. Griffith, M. D.

3. Rocks of several of the West India Islands, collected and presented by Mr. Maclure.

4. Series of the Greenstone rocks of Scotland, and a section of Salisbury Craigs, near Edinburgh: collected and presented by S. G. Morton, M. D.

5. Rocks from the northern shore of Lake Superior. Presented by Zina Pitcher, M. D., U. S. A.

6. Rocks from the route of the Erie and Hudson Canal. Presented by the Hon. Stephen Van Ransselaer, of Albany, N. Y.

7. Series of Vegetable Impressions from the coal Districts of Pennsylvania, Virginia, Ohio, and Rhode Island. Presented by Drs. Hays, Griffith, Benj. Say, and Morton.

8. An extensive collection of Organic Remains, from the secondary limestone of the valley of the Mississippi, being the collection of the late Mr. Clifford, of Lexington, Ky. Deposited in the Academy by Mr. J. P. Wetherill.

* It is to be regretted, however, that the cases are entirely inadequate to the display of this important collection, a large part of which necessarily remains packed in boxes.

9. A collection of Pentremite and Eucrinite remains, with numerous other fossils, from the vicinity of Huntsville, Alabama: presented by Mr. Samuel Hazard.

10. Upwards of a thousand British Fossils, being the entire collection of the late Mr. Steinhaur. Deposited by Mr. J. P. Wetherill.

11. Series of Fossil Shells, illustrating all the formations of the *Paris Basin*. This collection was presented by Messrs. Keating, Vanuxem, M'Euen, Lesueur, and Pennock.

12. Several hundred Fossil Shells, Crustacea, and Zoophytes, illustrative of the Crustaceous deposits of the United States, known as the *marl region*. Deposited by S. G. Morton, M. D.

13. An extensive series of the Tertiary Fossils of Maryland, Virginia, Alabama, &c., embracing nearly two hundred species: chiefly collected and presented by Mr. T. A. Conrad.

14. Series of the bones and teeth of the Mastodon, collected in various parts of the United States, and especially in the valley of the Mississippi. A large proportion of these is deposited by Mr. Wetherill. Forming part of the same collection, are ten teeth and some bones of the Fossil American Elephant, chiefly obtained at Big Bone Lick, in the Mississippi valley. Also parts of three skeletons of the Megalonyx, from the same region, comprising several ribs, vertebræ, bones of the leg, foot, &c.

The MINERALOGICAL Cabinet embraces about 3000 specimens, which have been largely contributed to by Mr. Maclure, especially in the European series. Incorporated with, and forming part of the above collection, are several hundred valuable specimens, deposited by Dr. T. M'Euen. A beautiful series of American minerals from Lockport, N. Y. is deposited by Mr. T. Fisher; they consist chiefly of carbonate and sulphate of lime, and the sulphate of strontian. The salts or Lead from the Perkiomen mine, are probably the finest hitherto obtained from an American locality. Mr. H. Seybert, Mr. Jos. P. Smith, and Mr. C. U. Sheppard, have con-

tributed largely to this department. In arranging the minerals, the system of Professor Cleaveland has been adopted throughout.

But perhaps the most valuable portion of the mineralogical collection is that which has recently been presented by Mr. Maclure, and which yet remains at New Harmony. The extent of this series is not known ; but there is reason for believing that it far exceeds, both in the number and variety of the specimens, all the previous acquisitions of the Academy in this department. Arrangements are now in progress for conveying this collection to Philadelphia.

Such is the present situation of the Academy of Natural Sciences : and while we take pleasure in recording the success of a favourite Institution, our gratification is much enhanced by observing the collateral exertions which are making in almost every section of the Union, to facilitate the pursuit of science. The New York Lyceum, established with similar views to the Academy, is not behind the latter in the talent and industry of its members, nor perhaps in the degree of its success. Its "Annals," published on the same plan as the Academy's Journal, are indispensable to the student of American Natural History, while its collections already illustrate almost every department of natural science. The American Philosophical Society, perhaps the oldest of our scientific and literary Institutions, acting on the broad basis of "promoting useful knowledge," has done, and is still doing a laudable share in the accomplishment of that great design, in which is included every branch of natural history.

We might expatiate largely on this pleasing subject, so fruitful in promise to the cause of science ; but for the present we shall merely add, that the spirit of investigation is rapidly extending itself through every portion of our country, and there is reason to hope, that in a very few years every large town in the United States, will possess a well organized Institution devoted to the cause of Natural History.



APPENDIX,

NO. I.

LIST of Resident Members of the Academy of Natural Sciences of Philadelphia, from its origin on the 25th of January, 1812, to the 1st of January, 1836.

Life Members are marked thus * ;—and the names of deceased members are printed in *italics*.

Persons who have resigned, or forfeited their membership, are not included in this list.

	Elect- ed		Elect- ed
<i>N. S. Allison</i> , M. D.	1813	*Judah Dobson,	1813
J. J. Abert, Col. Topog. Eng.	1828	*J. H. Dulles,	1816
John Barnes, M. D.	1812	*Rudolph Deitz,	1821
* <i>Edward Barton</i> , M. D.	1815	Nathan Dunn,	1831
*Nicholas Biddle,	1818	Edmund Draper,	1834
*Moses Brown,	1817	John Eberle, M. D.	1819
<i>George T. Bowen</i> ,	1822	* <i>Levi Ellmaker</i> ,	1829
William Y. Birch,	1823	Alfred Langdon Elwyn, M. D.	1831
Charles Lucian Bonaparte,	1824	<i>Robert Frazer</i> ,	1814
*Charles N. Banker,	1824	*Joseph Fisher,	1821
*John M. Brewer, M. D.	1824	Thomas Fisher,	1824
Alexander Dallas Bache, A.M.	1829	Hudson Foster,	1834
*M. Burrough, M. D.	1830	William A. Foster,	1833
T. F. Betton, M. D.	1831	J. K. Finley, M. D.	1828
W. Blanding, M. D.	1831	John F. Frazer,	1835
Henry Bond, M. D.	1830	*Jacob Gilliams,	1812
Wm. N. Bispham, A. M.	1834	R. E. Griffith, M. D.	1815
James Bryan, M. D.	1834	<i>J. D. Godman</i> , M. D.	1821
Robert Bridges, M. D.	1835	P. B. Goddard, M. D.	1829
Edward C. Biddle,	1834	Samuel S. Griscom,	1830
Charles Frederick Beck, M.D.	1827	Samuel W. Gumbs,	1834
James N. Barker,	1834	William P. Gibbons,	1833
<i>Joseph Correa de Serra</i> , LL.D.	1814	W. W. Gerhard, M. D.	1835
* <i>Z. Collins</i> ,	1815	* <i>Reuben Haines</i> ,	1813
<i>J. Cleaver</i> , M. D.	1817	*Robert Hare, M. D.	1813
*Caleb Carmalt,	1817	*Richard Harlan, M. D.	1815
*Edward Clark,	1816	N. M. Hentz,	1819
*Benjamin H. Coates, M. D.	1818	Clark Hare,	1835
Reynell Coates, M. D.	1830	Charles Hedelius,	1824
George W. Carpenter,	1825	*William Hembel,	1824
*J. Y. Clark, M. D.	1826	Charles Huffnagle, M. D.	1830
* <i>S. W. Conrad</i> , Prof. Bot.		Edward Hallowell, M. D.	1834
Univ. Pa.	1826	George Hagner,	1815
T. A. Conrad,	1831	S. C. C. Horsfield,	1830
Joseph Carson, M. D.	1833	Edward Harris, M. D.	1835

	Elected		Elected
*Isaac Hays, M. D.	1818	C. S. Rafinesque,	1816
Samuel Hazard,	1815	* James Read,	1824
Thomas P. Jones, M. D.	1812	M. M. Reeve, M. D.,	1831
* Thomas C. James, M. D.	1814	C. F. Rivinus, M. D.	1834
* A. E. Jessup,	1818	Henry D. Rogers,	1833
Walter R. Johnson,	1827	John Shinn, jr.	1812
William P. Johnson,	1835	* John Speakman,	1812
* William Kneass,	1814	* Thomas Say,	1812
* William H. Keating,	1816	* Joseph Stouse, M. D.	1812
John M. Keagy, M. D.	1830	* Benjamin Say,	1813
L. Allen Key,	1833	E. B. Stockton,	1815
* Isaiah Lukins,	1812	* Charles W. Smith,	1815
John Lea, jr.	1815	* Jacob R. Smith,	1815
* Isaac Lea,	1815	William Stewart,	1823
Joshua Longstreth,	1815	George Spackman, M. D.	1825
* Charles A. Lesueur,	1818	* Joseph P. Smith,	1826
R. La Roche, M. D.	1823	Daniel Steinhaur,	1829
* Camillus M. Mann, M. D.	1812	* Henry Seybert,	1828
* Thomas M'Euen, M. D.	1818	John B. Smith,	1834
* Samuel George Morton, M.D.	1820	Edward Swain, M. D.	1832
* John K. Mitchell, M. D.	1822	John Simmons,	1835
* William Maclure,	1812	Benjamin Shoemaker,	1835
J. F. E. Mickle, M. D.	1835	* G. Troost, M. D.	1812
Charles M'Euen,	1834	J. Edgar Thompson,	1831
Henry M'Murtrie, M. D.	1833	Frederick Turnpenny, M. D.	1833
Thomas D. Mutter, M. D.	1833	O. H. Taylor, M. D.	1832
James A. M'Crea, M. D.	1833	J. K. Townsend,	1833
George Mifflin, M. D.	1835	James Trudeau,	1835
John Millington,	1832	* Roberts Vaux,	1814
Caspar Morris, M. D.	1829	L. Vanuxem,	1815
* William Norris, jr.	1830	* John Vaughan,	1822
Thomas Nuttall,	1827	William S. Vaux,	1834
* George Ord,	1815	Alexander Wilson,	1813
* N. S. Parmentier,	1812	Benjamin Warner,	1814
Rubens Peale,	1813	I. F. Waterhouse, M. D.	1814
* Jacob Pearce,	1813	* William S. Warder,	1814
* R. M. Patterson, M. D.	1816	Jos. Woolens, M. D.	1815
* T. R. Peale,	1817	* William Wagner,	1815
Charles A. Poulson,	1823	* Joseph Watson,	1816
* Caspar W. Pennock, M. D.	1824	* John Price Wetherill,	1817
* Jonas Preston, M. D.	1824	William W. Wood,	1825
R. E. Peterson,	1831	Thomas B. Wilson, M. D.	1832
Charles Pickering, M. D.	1827	* N. A. Ware,	1826
R. R. Porter, M. D.	1833	* Richard Wistar,	1831
* S. S. Penrose,	1830	* Charles Wetherill,	1830
Robert Pearsall,	1835	* William Wetherill, M. D.	1824
* Joseph Roach,	1814	* George B. Wood, M. D.	1824
* Richard Randolph,	1814	* Tobias Wagner,	1816
Caleb Richardson,	1814	Thomas U. Walters,	1835
* Thomas Roach,	1816	George Zantzingcr,	1835

RECAPITULATION.

Life members,*	58	Contributing members,	85
Life members deceased,	11	Contributing members deceased,	15
			<u>169</u>

* For an explanation of these terms, see the Constitution and By-laws, chap. 2.

APPENDIX,

NO. II.

Chronological List of the Officers of the Academy of Natural Sciences, from its foundation to the 1st of January, 1836.

PRESIDENTS.

JOHN SPEAKMAN, from the initiatory meeting, January 25, 1812, to the 23d of March, 1813.*

GERARD TROOST, M. D., from March 23d, 1813, to December 23, 1817.

WILLIAM MACLURE, from December 30, 1817, to the present time.

VICE PRESIDENTS.

JOHN SHINN, Jr. from March 23d, 1813, to December 31st, 1816.

N. S. PARMENTIER, from March 23, 1813, to December 26, 1815.

Z. COLLINS, from December 26, 1815, to June 13, 1831.

GEORGE ORD, from December 31, 1816, to December, 30, 1834.

WILLIAM HEMBEL, from July 26, 1831, to the present time.

JOHN PRICE WETHERILL, from December 30, 1834, to the present time.

CORRESPONDING SECRETARIES.

Robert Hare, M. D., from December 28, 1813, to February 15, 1814.

Reuben Haines, from February 15, 1814, to Oct. 16, 1832.

Samuel George Morton, M. D., from November 28, 1831, to the present time.

RECORDING SECRETARIES.

Camillus M. Mann, M. D., from Jan. 25, 1812, to December 28, 1813.

Benjamin Say, from December 28, 1813, to March 8, 1814.

John Barnes, M. D., from March 8, 1814, to December 30, 1817.

* The first regular election of officers appears to have taken place at this date.

Edward Barton, M. D., from December 30, 1817, to December 28, 1818.
 Franklin Bache, M. D., from December 28, 1818, to December 25, 1821.
 William H. Keating, from December 25, 1821, to December 27, 1825.
 S. G. Morton, M. D., from December 27, 1825, to December 29, 1829.
 Thomas M'Euen, M. D., from December 29, 1829, to Feb. 21, 1835.
 Paul Beck Goddard, M. D., from February 21, 1835, to Nov. 10, 1835.
 Thomas D. Mutter, M. D., from Nov. 24, 1835, to the present time.

LIBRARIANS.

Caleb Richardson, from December 26, 1815, to December 30, 1817.
 Jacob Pearce, from December 30, 1817, to December 26, 1826.
 Solomon W. Conrad, from December 26, 1826, to December 30, 1828.
 Charles Pickering, M. D., from December 30, 1828, to Dec. 31, 1833.
 P. B. Goddard, M. D., from December 31, 1833, to Dec. 30, 1834.
 Joseph Carson, M. D., from Dec. 30, 1834, to the present time.

TREASURERS.

John Speakman, from March 23, 1813, to April 26, 1814.
 William S. Warder, from April 26, 1814, to December 26, 1815.
 Benjamin Say, from December 26, 1815, to December 31, 1816.
 Jacob Gilliams, from December 31, 1816, to December 26, 1826.
 George W. Carpenter, from December 26, 1826, to the present time.

CURATORS.

Thomas Say, from March 23, 1813, to December 28, 1819, and from December 26, 1820, to December 26, 1826.

Isaiah Lukens, from March 23, 1813, to December 28, 1819, and from December 25, 1827, to December 29, 1829, and from December 30, 1834, to February 24, 1835.

John Barnes, M. D., from March 23, 1813, to December 28, 1813.

Jacob Gilliams, from March 23, 1813, to December 26, 1815.

George Ord, from December 26, 1815, to December 30, 1817.

Lardner Vanuxem, from December 31, 1816, to December 30, 1817.

Lewis Gilliams, from December 31, 1816, to December 30, 1817.

T. R. Peale, from December 30, 1817, to December 28, 1819, and from December 27, 1825, to December 27, 1831.

C. A. Lesueur, from December 30, 1817, to December 27, 1825.

Thomas M'Euen, M. D., from December 28, 1819, to December 25, 1821, and from December 29, 1829, to December 30, 1834,—and from February 21, 1835, to the present time.

R. Harlan, M. D., from December 28, 1819, to December 26, 1820.

John P. Wetherill, from December 28, 1819, to December 27, 1825, and from December 26, 1826, to February 21, 1835.

I. Hays, M. D., from December 25, 1821, to December 28, 1830.

John Vaughan, from December 27, 1825, to December 25, 1827.

S. G. Morton, M. D., from December 30, 1830, to December 31, 1833

C. A. Poulson, from December 27, 1831, to December 30, 1834.

Charles Pickering, M. D., from December 31, 1833, to the present time.

Paul Beck Goddard, M. D., from December 30, 1834, to February 24, 1835.

T. A. Conrad, from February 24, 1835, to the present time.

Walter R. Johnson, from February 24, 1835, to the present time.

LIST OF OFFICERS FOR 1836.

PRESIDENT.

WILLIAM MACLURE.

VICE PRESIDENTS.

WILLIAM HEMBEL,

JOHN PRICE WETHERILL.

CORRESPONDING SECRETARY.

SAMUEL GEORGE MORTON, M. D.

LIBRARIAN.

JOSEPH CARSON, M. D.

TREASURER.

GEORGE W. CARPENTER.

CURATORS.

CHARLES PICKERING, M. D., THOMAS M'EUN, M. D.,

WALTER R. JOHNSON, T. A. CONRAD.

AUDITORS.

ROBERT E. PETERSON, W. P. GIBBONS, W. S. VAUX.

COMMITTEE OF PUBLICATION.

THOMAS M'EUN, M. D., ALFRED L. ELWYN, M. D.

W. P. GIBBONS, T. D. MUTTER, M. D., H. D. ROGERS.

APPENDIX,

NO. III.

Subscriptions towards the purchase of the present property of the Academy, in the year 1826.

Zaccheus Collins,	150 00	William Y. Birch,	20 00
Charles W. Smith,	10 00	R. Dietz,	20 00
William Hembel,	50 00	Charles J. Wister,	50 00
Thomas Fisher,	25 00	George Ord,	100 00
C. W. Pennock,	50 00	Roberts Vaux,	25 00
Reuben Haines,	100 00	Isaac Lea,	25 00
Samuel Betton, M. D.,	50 00	John K. Mitchell, M. D.,	20 00
Thomas R. Fisher,	10 00	William M. Walmsley,	25 00
Nicholas Biddle,	20 00	Charles A. Poulson,	25 00
Charles Lucian Bonaparte,	100 00	William Wetherill, M. D.,	20 00
George W. Carpenter,	10 00	Tobias Wagner,	10 00
John Price Wetherill,	50 00	Charles Hedelius,	10 00
R. Eglesfeld Griffith, M. D.,	10 00	James Read,	10 00
Richard Harlan, M. D.,	20 00	Isaac Hays, M. D.,	10 00
Moses Brown,	15 00	J. M. Brewer,	10 00
Judah Dobson,	10 00	Jacob Gilliams,	50 00
William S. Warder,	25 00	Joseph P. Smith,	45 00
R. Steel,	16 00	William Maclure,	500 00
Volans,	50 00	S. G. Morton, M. D.,	50 00
W. Darrach, M. D.,	10 00	A. B. Spence,	10 00
R. M. Patterson, M. D.,	25 00	S. Mifflin,	10 00
George Blight,	20 00	N. A. Ware,	200 00
William H. Keating,	10 00		
T. C. James, M. D.,	20 00		
			<hr/> 2146 00

APPENDIX,

NO. IV.

In the summer of 1834, a private subscription furnished the means for erecting a series of horizontal, glass-covered cases, against the gallery railing of the museum. The following is a transcript of the subscription list :

Thomas M'Euen, M. D.	\$ 70	Henry Seybert,	40
C. W. Pennock, M. D.,	10	Thomas F. Betton,	10
Reuben Haines,	20	S. G. Morton, M. D.,	29
John P. Wetherill,	25	Charles Hedelius,	10
Zaccheus Collins,	25	William S. Warder,	5
William Hembel,	10	Joseph P. Smith,	25
James Read,	10		
J. V. Merrick,	5		\$304

APPENDIX,

NO. V.

The expenses of transporting the Maclurian Library from New Harmony to Philadelphia, under the superintendence of Dr. Pickering, in November and December, 1835, were defrayed by the following gratuitous subscription :

John Price Wetherill,	\$50	Edmund Draper,	5 00
William Hembel,	50	William P. Gibbons,	5 00
Nathan Dunn,	50	Thomas D. Mutter, M. D.,	5 00
William Wetherill, M. D.,	20	George W. Carpenter,	5 00
S. G. Morton, M. D.,	20	George Mifflin, M. D.,	5 00
Isaiah Lukins,	20	Thomas Fisher,	20 00
George B. Wood, M. D.,	20	James Read,	5 00
Charles M'Euen,	10	John F. Frazer,	20 00
Thomas M'Euen, M. D.,	10	Alfred L. Elwyn, M. D.,	20 00
Joseph Carson, M. D.,	5		
		Subscription,	345 00
		Expenses,	339 06
		Bal. (paid to Treas. Acad.)	5 94

The insurance, amounting to seventy-six dollars, was paid by the Academy.

In addition to the very general notice of these books at page 14, their size and number may be more specifically stated as follow :

Folio, 377. Quarto, 533. Octavo, 772. Duodecimo, 577.—Total, 2,259.

APPENDIX.

NO. VI.

Legacies received by the Academy of Natural Sciences of Philadelphia.

1830. From William S. Warder. A part of his Library, consisting of about forty volumes on various subjects.
1834. From Rev. Lewis David Von Schweinitz. His entire Herbarium, 23,000 species of Plants. (See page 19.)
1834. From Thomas Say. His Entomological Library, (see page 13,) Entomological Collection, (page 18,) and a valuable series of land, fresh water, marine and fossil shells.

As the Catalogue of the Academy's Library is now in progress, and will be published as soon as completed, the members of the Institution, and other persons favourable to the interests of Natural History, are respectfully informed that all works on that subject will be gratefully received, either as donations, or deposits on trust subject to the order of the owners. Even books that may appear to possess little value of themselves, become highly useful as works of reference, when added to an extensive series of similar import.

It may be further stated, that although the leading object of the Academy is the promotion of the study of Natural History, its Library is of a miscellaneous character, and embraces numerous works in every department of Literature, Science and Art. Books on these subjects, or any branch of useful knowledge, will be highly acceptable.

